

ABSTRACT OF THE DISCLOSURE

A printer and method for recording a predefined multiple intensity level image on a substrate, the method includes the steps of: converting the predetermined image to multiple intensity level associated images; converting a light beam to multiple light beam arrays; modulating each light beam array to provide modulated light beam arrays, in response to a corresponding intensity level associated image to be recorded on the substrate; directing each modulated light beam array to impinge on the substrate; and repeating the steps of converting, modulating and directing while moving the substrate until the predefined image is imaged on the substrate. The printer includes a programmable optical radiation source for providing multiple modulated light beam arrays and for directing the modulated light beam arrays to impinge on the substrate, each modulated light beam array being modulated in response to an input signal corresponding to a corresponding intensity level associated image to be recorded on the substrate; whereas a superposition of the intensity level associated images forms the predefined image on the substrate, and a movable stage for moving the substrate until the predefined image is imaged on the substrate.